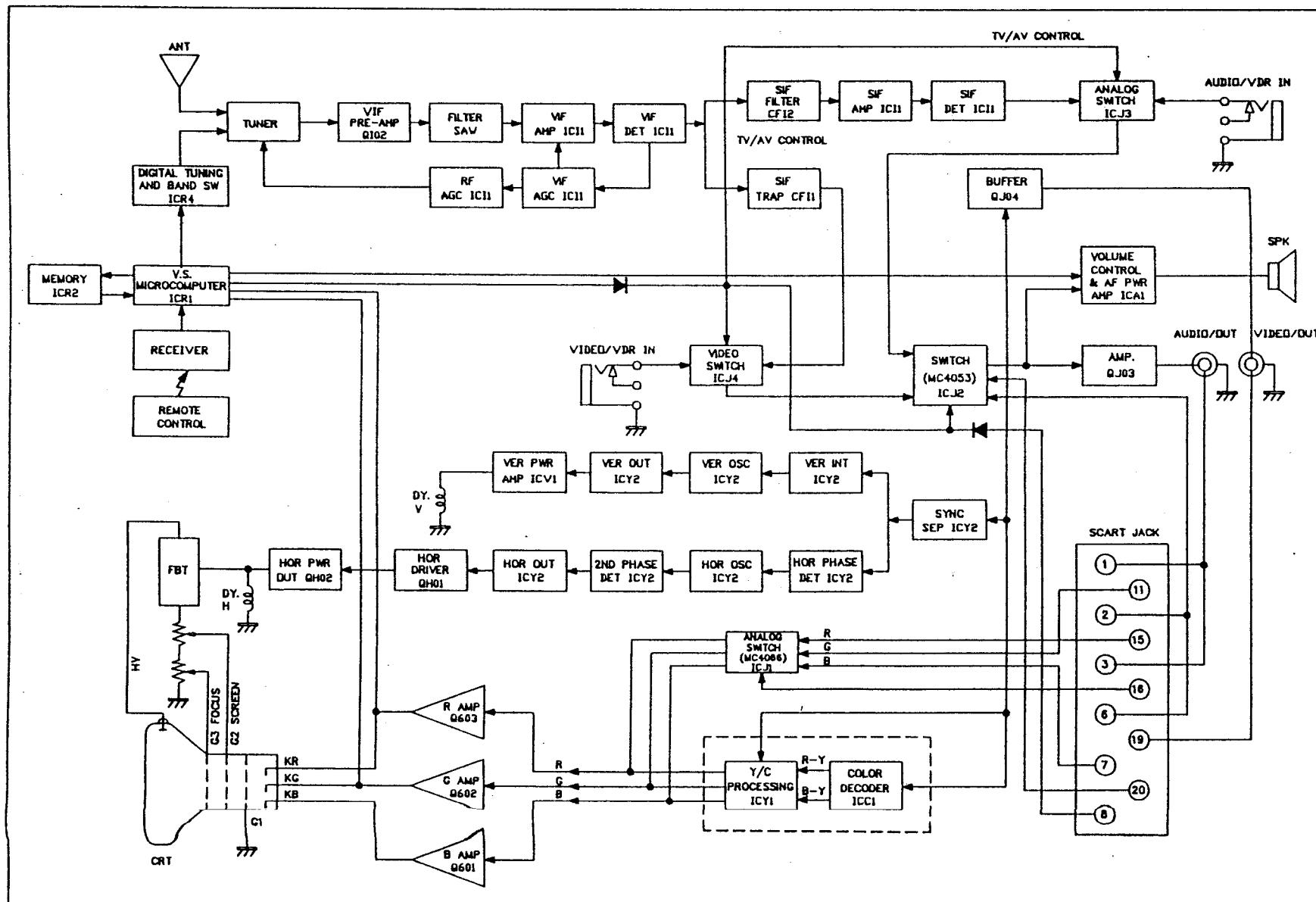




# **SERVICE MANUAL**

**MODEL : TVR-004/B**

# TV BLOCK DIAGRAM



## ALIGNMENT PROCEDURE

### REGULATOR ADJUSTMENT

1. CONNECT TV UNIT TO DC 12V~14V POWER SUPPLY & TEST PATTERN GENERATOR.
2. CONNECT A DC DIGITAL VOLTMETER OR OTHER PRECISION ACCURACY VOLTMETER TO THE COLLECTOR OF THE REGULATOR OUTPUT TRANSISTOR QP01 (OR ANY 10.8 VOLT POINT OR TP1).
3. ADJUST HORIZONTAL HOLD VRV1 UNTIL THE PICTURE HOLD IN SYNC.
4. VERTICAL HIGHTNESS ALIGNMENT  
ADJUST THE VERTICAL HIGHTNESS VRV2 ENABLE THE CIRCLE OF PICTURE APPROACH TO CIRCLE.
5. HORIZONTAL POSITION ALIGNMENT  
ADJUST HORIZONTAL POSITION VRY2, LET THE SQUARE SIGNAL IN THE CENTER OF THE SCREEN.
6. RF AGC ALIGNMENT  
ADJUST VIF MODULE AGC CONTROL VRI1 AT INPUT SIGNAL INTENSITY 50dB, THE SCREEN COULD LOOKING CLEAR AND 80dB THE SCREEN DON'T INFLECT.
7. WHITE BALANCE ALIGNMENT  
ADJUST THE SVR602, SVR601, AT CENTER POSITION, ADJUST SCREEN VR, LET THE SCREEN WILL BE LITTLE BRIGHTNESS. ADJUST SVR602 LET THE SCREEN TO BE YELLOW, AND THEN ADJUST SVR601 LET THE SCREEN APPROACH TO WHITE.
8. FOCUS ADJUSTMENT  
ADJUST FOCUS VR, LET THE STRIP LINE ON THE SCREEN TO BE CLEAR.

## ALIGNMENT PROCEDURE

### GENERAL ALIGNMENT INSTRUCTIONS

1. VIDEO IF ALIGNMENT

TEST EQUIPMENT CONNECTION (SEE FIGURE)

OSCILLOSCOPE: CONNECT TO (1) ICI1 PIN16

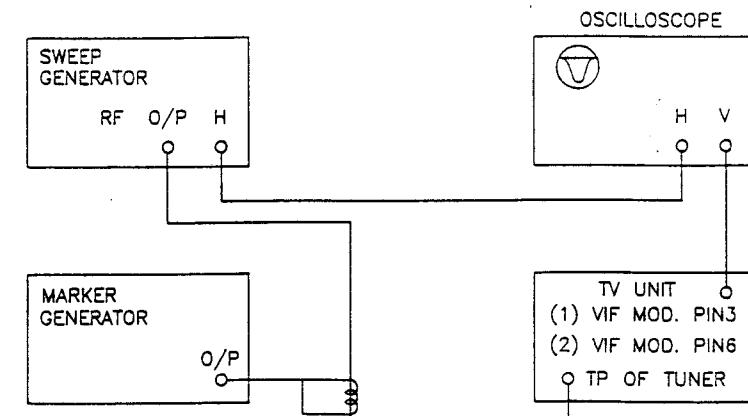
(2) ICI1 PIN11

SWEEP GENERATOR: CONNECT THROUGH A MATCHING PAD TO TEST POINT (TP2) OF THE TUNER.

MARKER GENERATOR: COUPLE LOOSELY TO THE OUTPUT CABLE OF SWEEP GENERATOR.

DC SUPPLY: ADD DC +12V AT DC JACK

ADJUST SWEEP GENERATOR TO LOWEST SIGNAL LEVEL CONSISTENT WITH USABLE			
STEP	SWEEP FREQUENCY	MARKER FREQUENCY	REMARK
1) ADJUST VIF MOD. TI02 FOR MARKER POINT MAXIMUM.	30~50 MHz FOR NTSC 65MHz FOR JAPAN. 25~45 MHz FOR CCIR.	SYSTEM B, G, H, 36.7MHz SYSTEM I 37.3 MHz SYSTEM M, N 44 MHz (57MHz FOR JAPAN) (34.7 MHz FOR AUSTRALIA SYSTEM)	PARENTHESIS FOR EXCEPTION.
2) ADJUST VIF MOD. TI01 FOR MARKER POINT CENTER	30~50 MHz FOR NTSC 65MHz FOR JAPAN. 25~45 MHz FOR CCIR.	SYSTEM B, G, H, 36.7MHz SYSTEM I 37.3 MHz SYSTEM M, N 44 MHz (57MHz FOR JAPAN) (34.7 MHz FOR AUSTRALIA SYSTEM)	IN THE PARENTHESIS FOR AFC CORRECTION

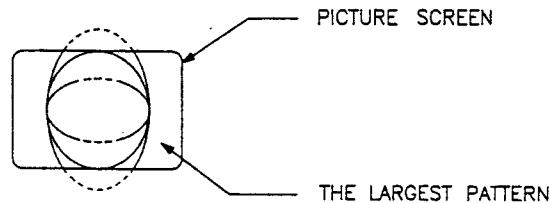


VIDEO IF ALIGNMENT CONNECTING FIGURE

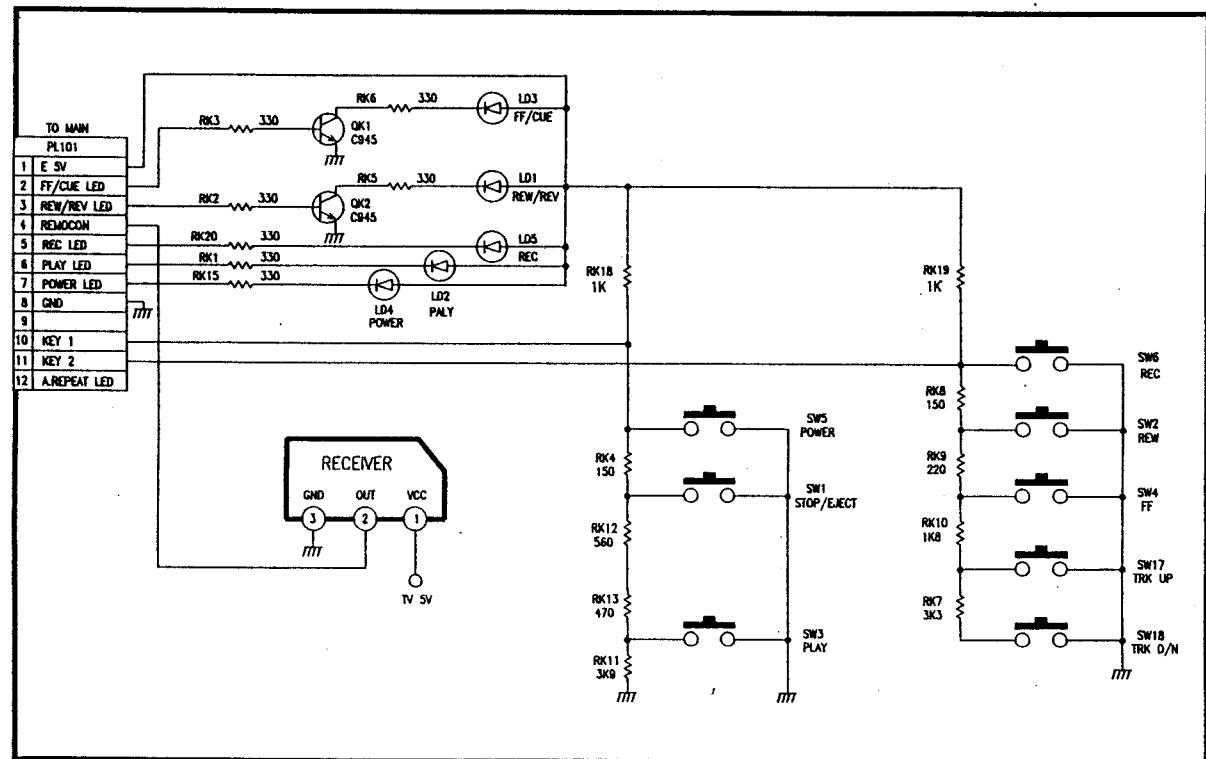
## ALIGNMENT PROCEDURE

### 2. VERTICAL DEFLECTION ALIGNMENT

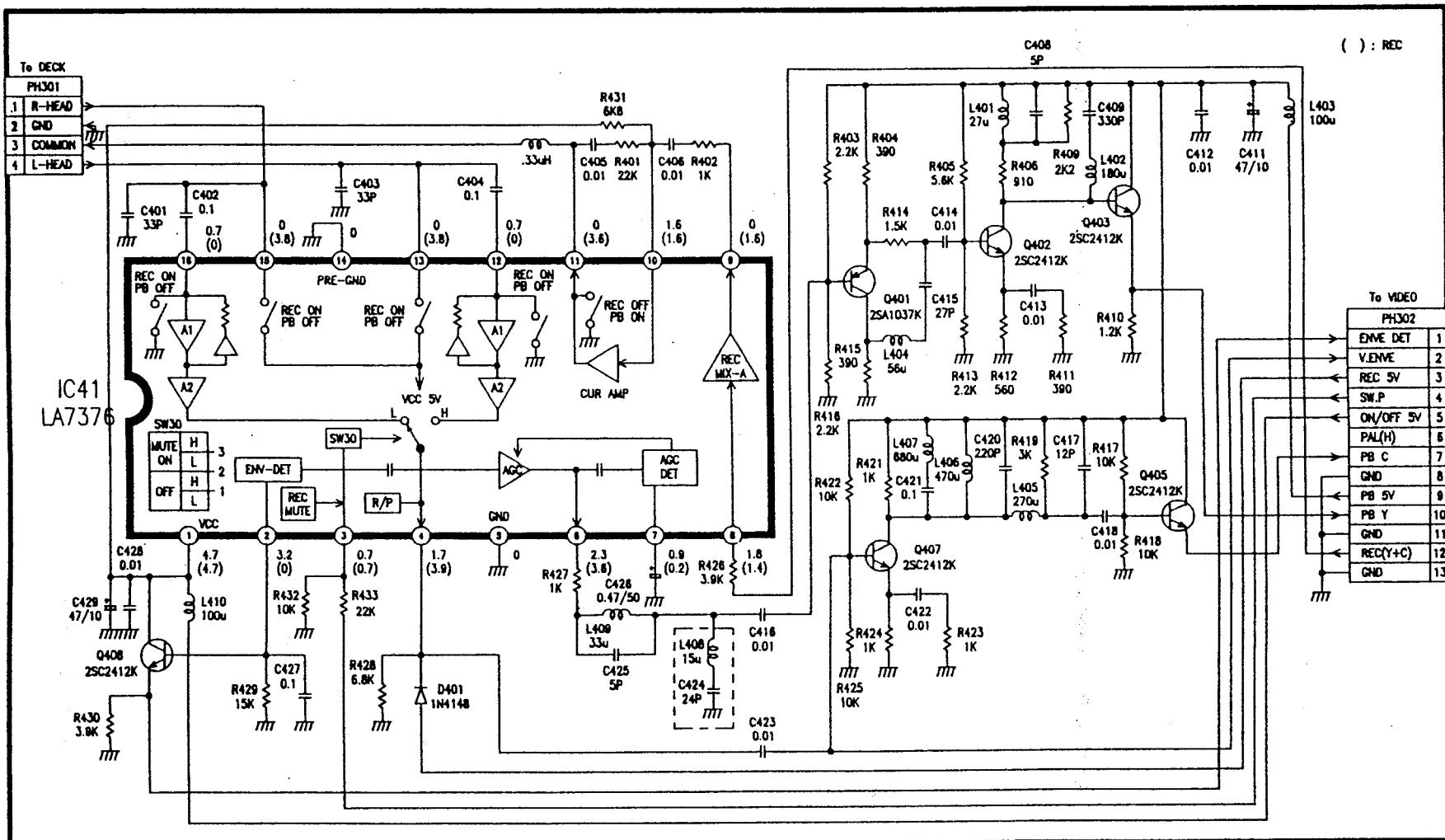
- (1) TUNE THE RECEIVER IN A TEST PATTERN.
- (2) ADJUST V-SIZE CONTROL VRV2 TO MAKE  
THE INSIDE OF THE LARGEST CIRCLE OF TEST PATTERN REACHES NEAR ROUND  
PATTERN. (SEE THE FIGURE)



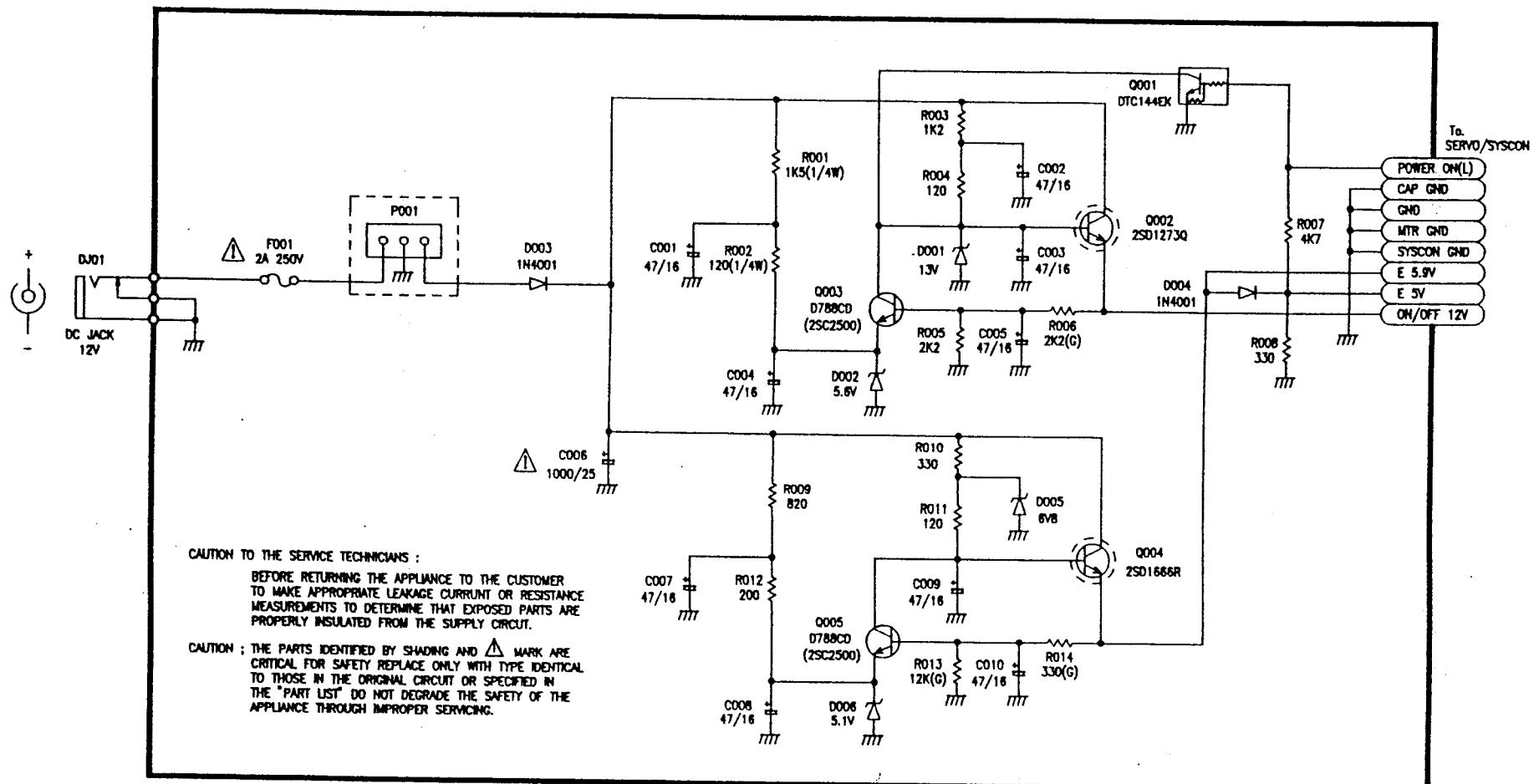
## VDR LOGIC SW SCHEMATIC DIAGRAM

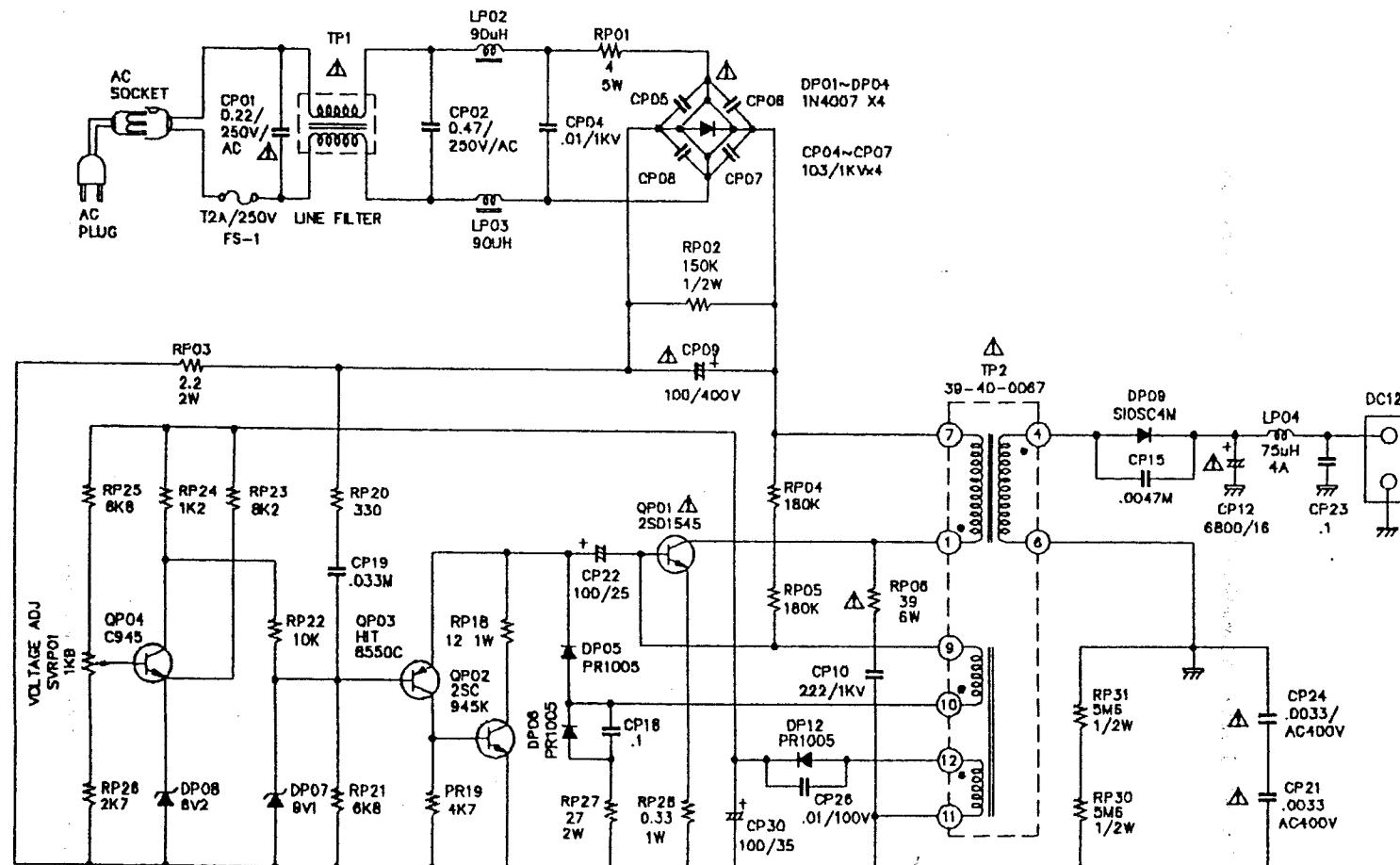


## **VDR PRE-AMP SCHEMATIC DIAGRAM**



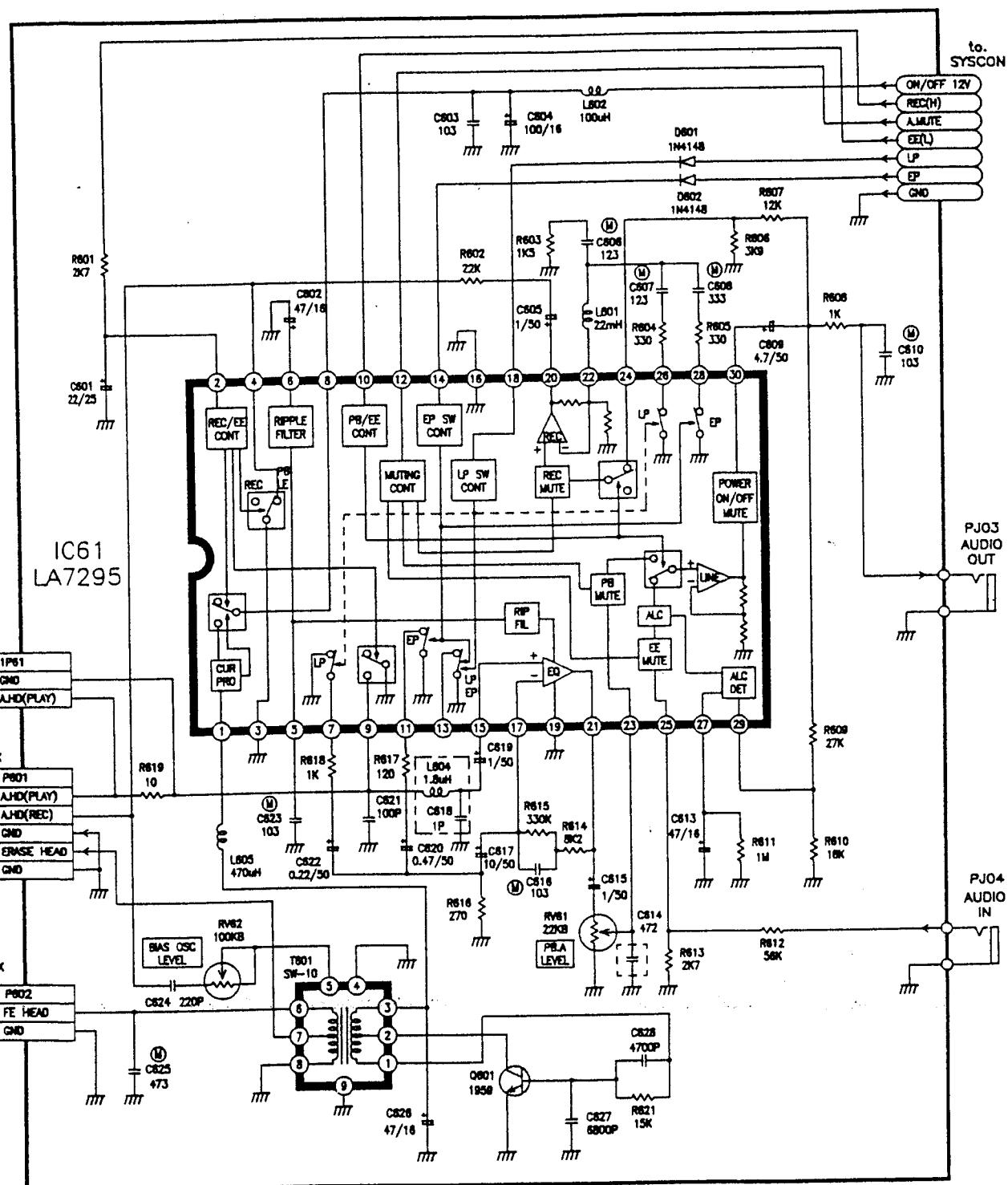
# VDR POWER SCHEMATIC DIAGRAM





SUBFIX	MOD RECORD	億聲電子股份有限公司				
AA	1993/11/25	TITLE: TVR-302B/BF SW. POWER SCHEMATIC DIAGRAM				
AB	TVR-302B	DESIGN	CHECK	APPROVED	DRAWING NO	REV
AC					05-22-1310	0
AD						
AE		曾美華	徐文貞			SH3

## VDR AUDIO SCHEMATIC DIAGRAM



# ELECTRICAL ADJUSTMENT

## 1-1. ALIGNMENT AND ELECTRICAL ADJUSTMENT

For these adjustment, use the equipment mentioned below and proceed by using the alignment tape and video signal.

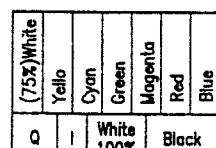
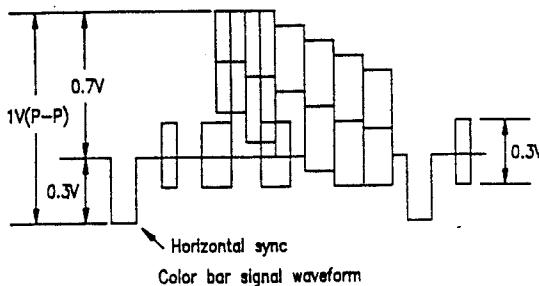
Instrument and Tools Required.

1. Color TV receiver.
2. Oscilloscope having 10MHz or more bandwidth.
3. Color-bar generator.
4. Frequency counter.
5. VTVM
6. VOM
7. Audio oscillator.
8. Audio attenuator.

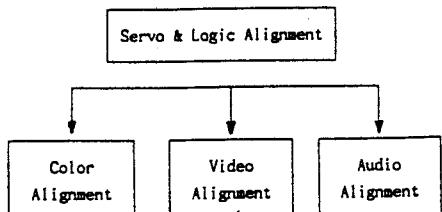
Signal Level and Input and Output Impedance Requirement.

1. Video input: Negative sync., 1Vp-p standard composite video signal,  $75\Omega$ .
2. Video output: Same as above.
3. Audio input: Line - 10dBs,  $47K\Omega$ .
4. Audio output: -50dBs,  $10K\Omega$  or less.

The suitable waveform of the color-bar signal generator is shown below.



Color bar pattern



## Adjustment Sequence

The VCR should be adjusted in the sequence shown below.

## 1-2. SERVO-LOGIC CIRCUIT ADJUSTMENT METHOD

### 1. VIDEO HEAD SWITCHING POSITION

Adj. Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV11	PT01 3PIN TP54	Oscilloscope	Play	DP-1

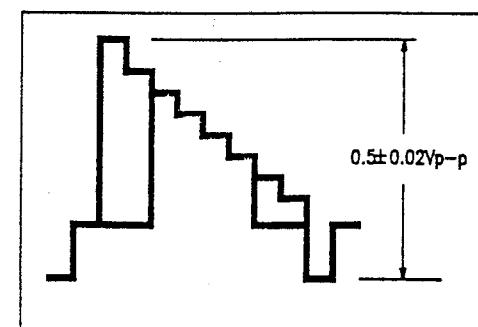
- 1) Play back the test tape.
- 2) Set the oscilloscope in the CHOP mode connect the CH1 to SW pulse PT01 2 PIN the CH2 to TP54 (v.out) with CH1 triggering.
- 3) Adjust RV11 for the positive trigger until  $6.5H \pm 0.5H$  cycles before the vertical SYNC pulse.

## 1-3. VIDEO CIRCUIT ADJUSTMENT METHOD

### 1. E E VIDEO LEVEL

Adj. Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV55	TP55	Oscilloscope	EE	—

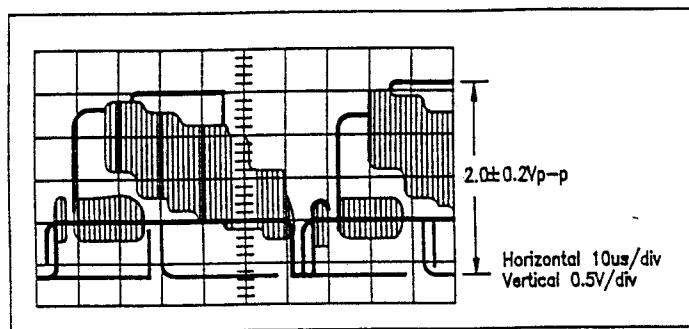
- 1) Feed the color bar signal to the line input terminal. And set for the stop (EE) mode.
- 2) Connect the oscilloscope to TP55 and trigger the scope with a composite SYNC signal at TP53. (COMP.SYNC.)
- 3) Adjust the oscilloscope so that it can display a waveform of approx. 2H.
- 4) Adjust RV55 to obtain  $0.5 \pm 0.02Vp-p$  between SYNC TIP and 100% white level.



## 2. PLAYBACK Y-SIGNAL OUTPUT LEVEL

Adj. Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV56	TP54	Oscilloscope	PB	DP-1

- 1) Playback the test tape (Color Bar Signal).
- 2) Connect the oscilloscope to TP54 and trigger the scope with a composite SYNC signal at TP53. Adjust the scope so that it can display a waveform of approx. 2H.
- 3) Adjust RV56 to obtain  $2.0 \pm 0.2$  Vp-p between the SYNC TIP and 100% white level.



## 3. SYNC TIP FREQUENCY

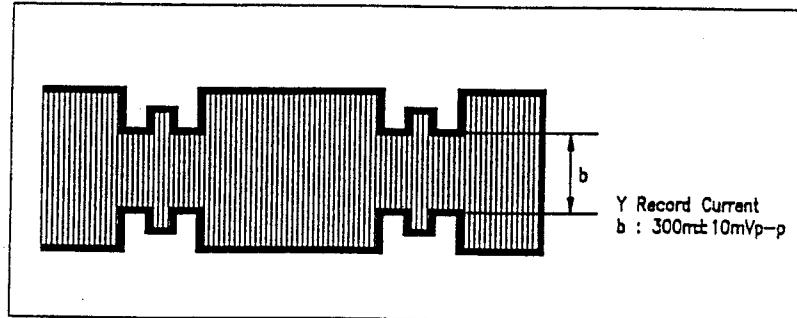
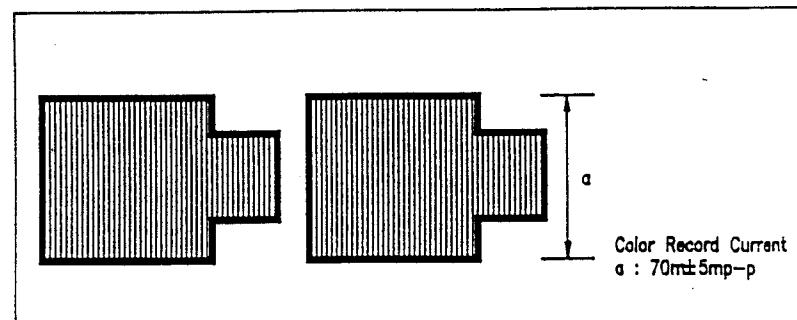
Adj. Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV54, RV53	TP52	Freq. Counter	REC.	—

- 1) Set the unit to NTSC mode without video signal. (Jack of video line input is shorted with ground).
- 2) Connect the frequency counter to TP52.
- 3) Adjust RV54 until the SYNC TIP frequency becomes  $3.4\text{MHz} \pm 0.1\text{MHz}$ .
- 4) Set the unit to N-PAL mode.
- 5) Adjust RV53 until the SYNC TIP frequency becomes  $3.8\text{MHz} \pm 0.1\text{MHz}$ .

## 4. LUMINANCE AND COLOR RECORD CURRENT

Adj. Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV51, RV52	TP51	Oscilloscope	REC.	Blank Tape

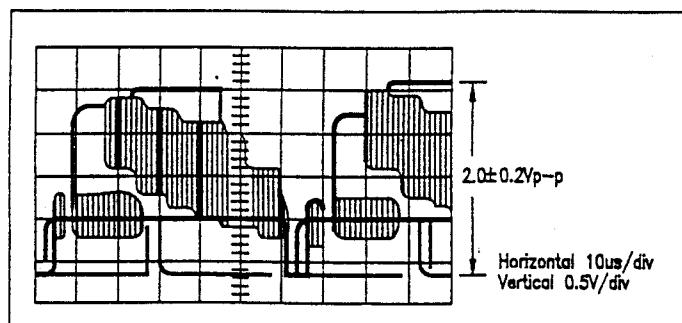
- 1) Input Color bar signal in video line in.
- 2) Make every adjustment in REC mode.
- 3) Connect CH.1 of oscilloscope to TP51 and TP GND and CH.2 TP53 (C.SYNC), and then trigger the scope with an external signal.
- 4) Adjust RV52 Until the color record current level (RED REFERENCE) becomes  $70 \pm 5$  mVp-p.
- 5) Connect CH.1 of oscilloscope to TP51 and TP GND and CH.2 TP53 (C.SYNC), and then trigger the scope with an external signal.
- 6) Adjust RV51 Until the Sync. Luminance level becomes  $300 \pm 10$  mVp-p.



## 5. FM DEVIATION

Adj. Location	Checking Point	Measuring Equipment	Mode	Test Tape
RV57	TP54	Oscilloscope	PB & REC	Blank Tape

- 1) Confirm that the adjustment for the playback Y-Singal output level has been made correctly.
- 2) Feed the color bar signal to the line terminal, and set the VCR to the record mode.
- 3) Connect the oscilloscope to TP54 and trigger the scope with a composite sync signal (TP51).
- 4) Record the color bar signal for a few minute and playback it. Then confirm that the playback Y-signal output level is  $2.0 \pm 0.2 \text{Vp-p}$ .
- 5) If the playback Y signal output level is not  $2.0 \pm 0.2 \text{ Vp-p}$ , the adjust as follows.
  - 5-1) Set the VCR in the record mode.
  - 5-2) Turn the variable RV57 a little.
  - 5-3) Record the color bar signal for a few minute and playback it.
  - 5-4) Confirm the playback Y signal output is  $2.0 \pm 0.2 \text{ Vp-p}$ .
  - 5-5) Repeat from step 5-1) until the playback Y-signal output level become  $2.0 \pm 0.2 \text{ Vp-p}$  between the Sync, TIP and 100% white level.



## 5. RECORD-PLAYBACK OUTPUT LEVEL

Adj. Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
	Checking	Audio Line Out	Audio Level Meter Audio Signal Generator	REC. Play Blank Tape

- 1) Connect the audio signal generator to the audio line input jack.
- 2) Record and playback the input of the audio reference signal 1KHz, -10dBm.
- 3) Connect that play output level is  $-5 \pm 3 \text{dBm}$  as referenced to the playback output level.

#### 1-4. AUDIO CIRCUIT ADJUSTMENT METHOD

##### 1. PLAYBACK OUTPUT LEVEL

Adj. Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
RV61	Audio Line Out	Audio Level Meter	PLAY Mode	DP -1

- 1) Connect the audio level meter to the audio line output jack.
- 2) Play back the test tape.
- 3) Adjust RV61 until the audio level meter reads  $-6.0 \pm 1.5 \text{ dBm}$  play back output.

##### 2. PLAYBACK OUTPUT FREQUENCY CHARACTERISTIC

Adj. Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
Checking	Audio Line Out	Audio Level Meter	PLAY Mode	1KHz, 0dBm 6KHz, 0dBm

- 1) Playback the Test tape, and confirm that the playback output level at 6KHz is within  $0 \pm 3 \text{ dB}$  as referenced to the 1KHz Playback output level.

##### 3. BIAS CURRENT ADJUSTMENT AND OSCILLATION FREQUENCY CHECKING

Adj. Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
RV62	TP61 1.2pin	Frequency Counter	REC. Mode	Blank Tape

- 1) Supply the signal in the OPEN mode.
- 2) connect the positive lead of the VTVM to TP61 1pin and negative lead to TP61 2pin.
- 3) Set the VCR in recording mode.
- 4) Confirm the frequency counter display is  $70\text{KHz} \pm 10\%$  and adjust RV62 until VTVM reads 2.3 mVrms.

##### 4. RECORD-PLAYBACK FREQUENCY RESPONSE

Adj. Location	Measuring Point	Measuring Equipment	Condition of Adj.	Test Tape
Checking	Audio Line Out	Audio Level Meter Audio Signal Generator	REC. Play	Blank Tape

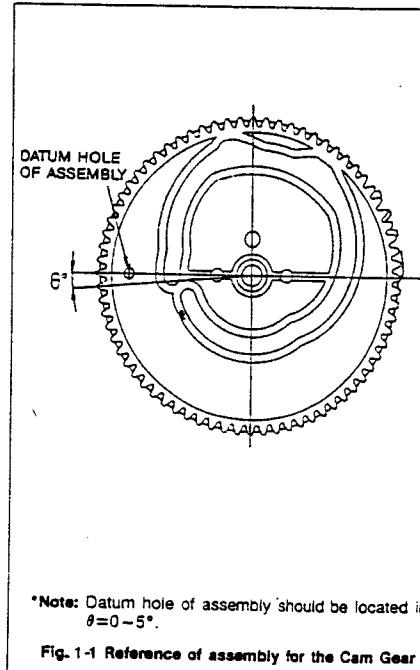
- 1) Connect the audio signal generator to the audio line input jack, and the audio level meter to the audio line output jack.
- 2) Record reference audio signal to the 400Hz and 8KHz (SP) audio signal at -20 dBs.
- 3) Check to insure that 8KHz and playback output level is within  $-1 \pm 3 \text{ dB}$  as referenced to the 400 Hz playback output level. (SP)
- 4) If the difference between 8KHz and 400Hz playback output level is more than  $\pm 1 \text{ dB}$ , increase the bias current more than 2.3mVms, and if the difference is less than  $-3 \text{ dB}$ , reduce the bias current less than 2.3mVms.

## 1. MECHANICAL ADJUSTMENT

### 1-1. CHECK FOR THE MECHANICAL POSITION

Check for the following matters before disassembly, replacement and reassembly.

- 1) Make sure of the assembly base of the Deck Mechanism in the EJECT MODE.
- 2) Make sure of the assembly position among the Cam Gear and several parts before assembling the U/C Bracket Total Ass'y (refer to Fig. 1-1,2,3,4).
- 3) Make sure of the assembly position between the Loading Rack and the R & L-Loading Ass'y (refer to Fig. 1-5).
- 4) Make sure of the position of the Cam Switch when assembling the U/C BRKT Total Ass'y (refer to Fig. 1-6).
- 5) Make sure of the assembly state of the Front Loading Ass'y (refer to Fig. 1-7).
- 6) Make sure of the other's assembly state (refer to Fig. 1-8).



\*Note: Datum hole of assembly should be located in  $\theta=0-5^\circ$ .

Fig. 1-1 Reference of assembly for the Cam Gear

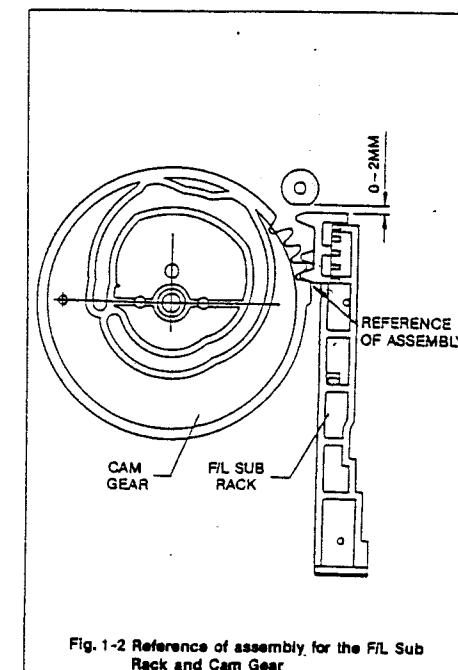


Fig. 1-2 Reference of assembly for the FIL Sub Rack and Cam Gear

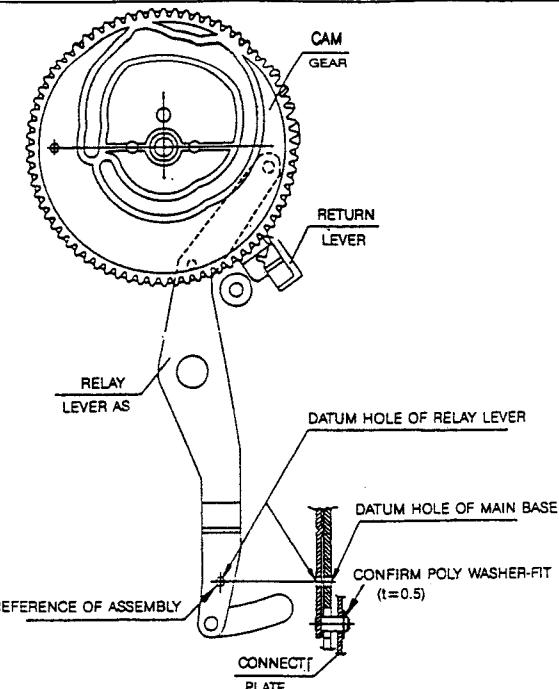


Fig. 1-3 Reference of assembly for the Cam Gear and Relay Lever

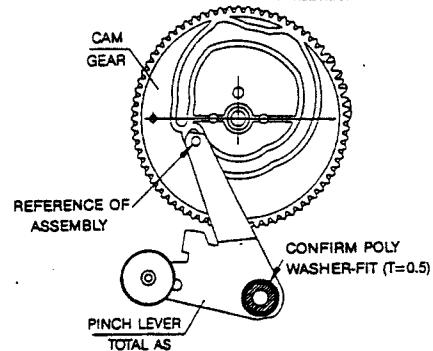


Fig. 1-4 Reference of assembly for the Cam Gear and Pinch Lever

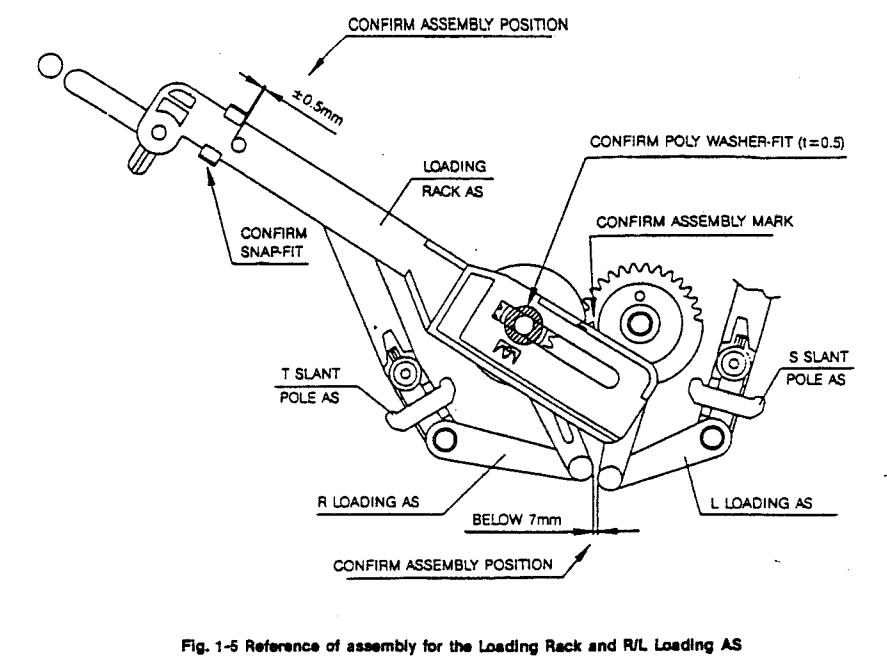


Fig. 1-5 Reference of assembly for the Loading Rack and R/L Loading AS

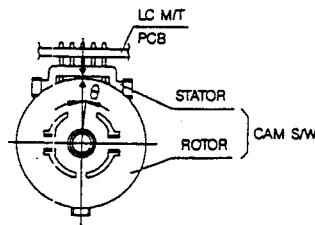


Fig. 1-6 Reference of assembly for the Cam Switch

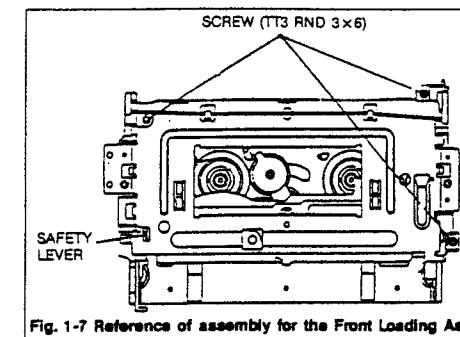
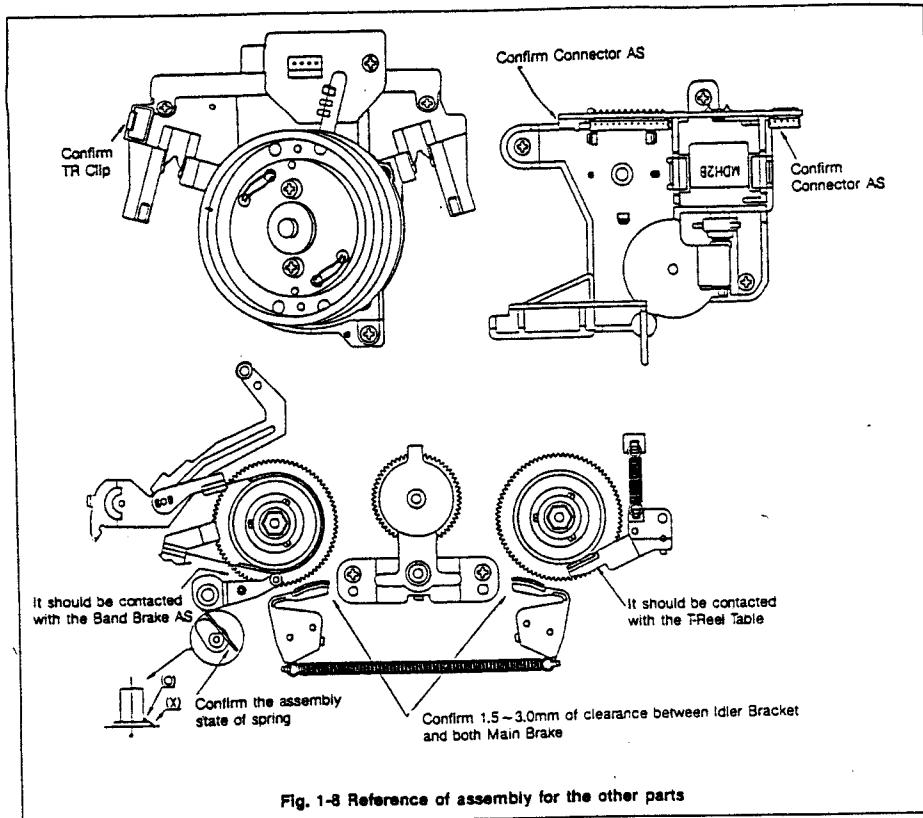


Fig. 1-7 Reference of assembly for the Front Loading As

\*Note: 1. The  $\Delta$  Shape of Rotor should be located in  $\theta=0-5^\circ$ .  
 2. The above figure is a reference bottom view for the L/C bracket Total AS.

\*Note: 1. It should be returned to its original state when the safety lever was pushed by hand.  
 2. On fastening screw, that above 6mm should not be used (In the case of using non-specification screw, the Capstan PCB is deformed.)

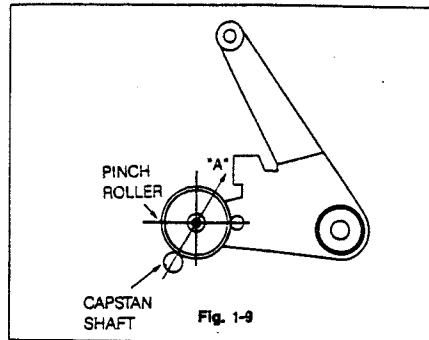


## 1-2. HOW TO SET MECHANICAL MODE

- 1) On removing the Front Loading Ass'y, Syscan executes the INITIAL MODE and then power off.
- 2) If the power is on in the INITIAL MODE, it executes the STOP MODE.
- 3) Push the button you want.
- 4) On executing the required mode, pull out the power plug if necessary.
- 5) If the STOP/EJECT button is pushed in the STOP MODE or EJECT MODE, it returns to the INITIAL MODE via the EJECT mode and then power off.
- 6) Reassemble the Front Loading Ass'y in the only EJECT MODE.

**1-3. Measurement of Pressing Force for Pinch Roller**

- 1) In a state of removing the Front Loading Ass'y, pull out the power plug after playing back without cassette.
- 2) Remove the L/C Bracket Total Ass'y and the Worm Wheel.
- 3) Pull the push-pull gauge to the direction 'A' indicated by the arrow as shown in Fig. 1-9.
- 4) Confirm that the scale of push-pull gauge is  $1.2 \pm 0.2$  Kg at the moment of the Pinch Roller separating from the Capstan Shaft.
- 5) If it is out of specification, replace the Pinch Roller Spring or the Pinch Lever Total Ass'y.

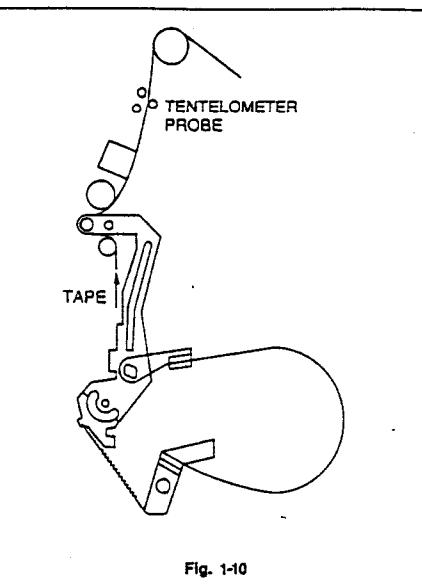


**1-4. The Measurement and Adjustment of Back Tension**

- 1) Play back T-120 tape at its center position without F/L Ass'y, wait until the driving of tape is stabilized (about 10 ~ 20 seconds).
- 2) Set the Tentelometer as shown in Fig. 1-10 and confirm the scale (SPEC: 22 ~ 30g).
- 3) If it is out of specification, change the position of Tension Spring in order to adjust the tension value.

**NOTE:**

1. Make sure that the three probes of the Tentelometer are all in good contact with tape.
2. It is recommended to be measured three times as Tentelometer is very sensitive.



**1-5. The Height Adjustment of Reel-Table**

- 1) Put the master into the Hole S and the Hole T in the Jig (TSH-V4) and set the Dial Gauge to zero.
- 2) Set the Jig (TSH-V4) on the Deck Ass'y as shown in Fig. 4-11 and check the height of Reel Table (S:  $0 \pm 0.1$  T:  $0.3\text{mm}$ ).
- 3) If it is out of range, it is necessary to adjust the height of Reel Table by adding or subtracting the Poly Slider as shown in Table 1-1.

THICKNESS	PART NUMBER
0.13 mm	97S3903700
0.25 mm	97S3904000
0.5 mm	97S3903600

Table 1-1 Poly Slider for Adjustment

## 2. THE ADJUSTMENT OF TAPE TRANSPORTING SYSTEM

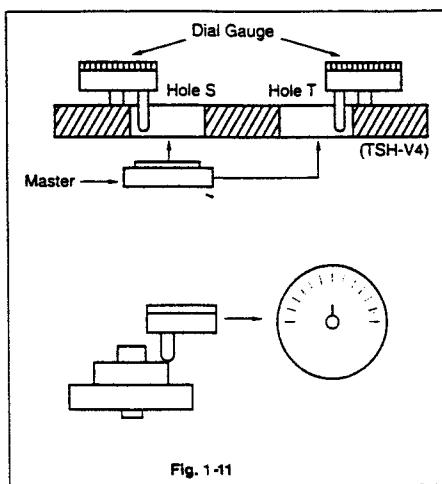


Fig. 1-11

### 1-5. The Measurement of Reel Torque

- 1) Play back the Cassette Type Torque Meter.
- 2) Measure the Take-up Reel Torque after the tape running is stabilized (SPEC: 90 ~ 170 cm).
- 3) If it is out of range, replace the Reel Gear Total Ass'y.

The tape transporting system has been precisely adjusted at the factory and does not ordinary require readjustment. But when the noise and tape damage takes place and parts that compose the tape transporting system are replaced due to troubles by long usage or unexpected accidents, check and readjust the tape transporting system.

### 2-1. THE SCHEMATIC DIAGRAM OF TAPE TRANSPORTING SYSTEM

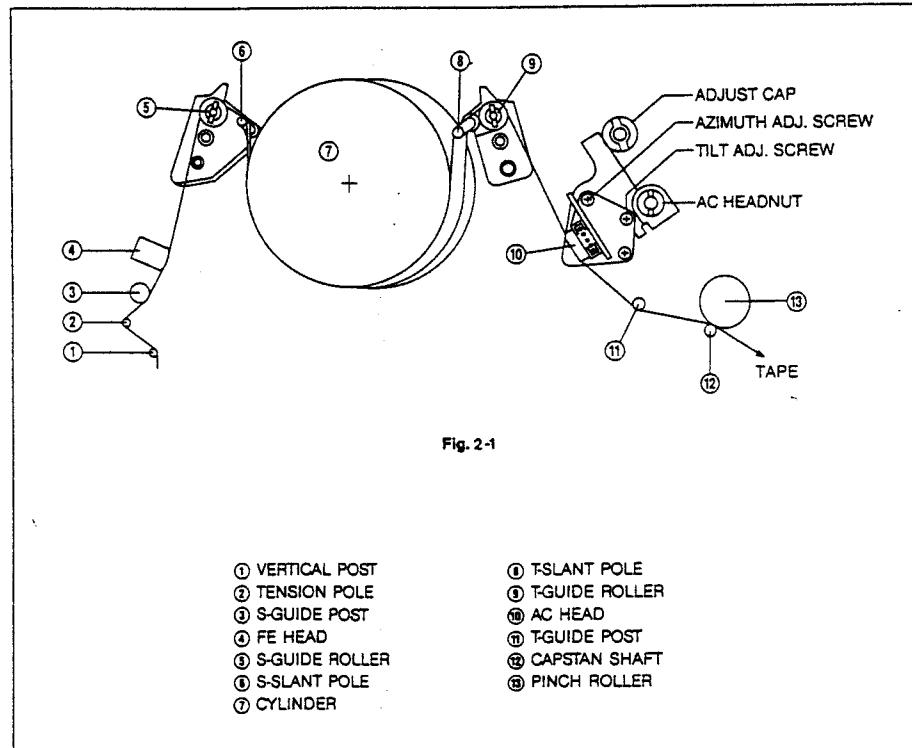
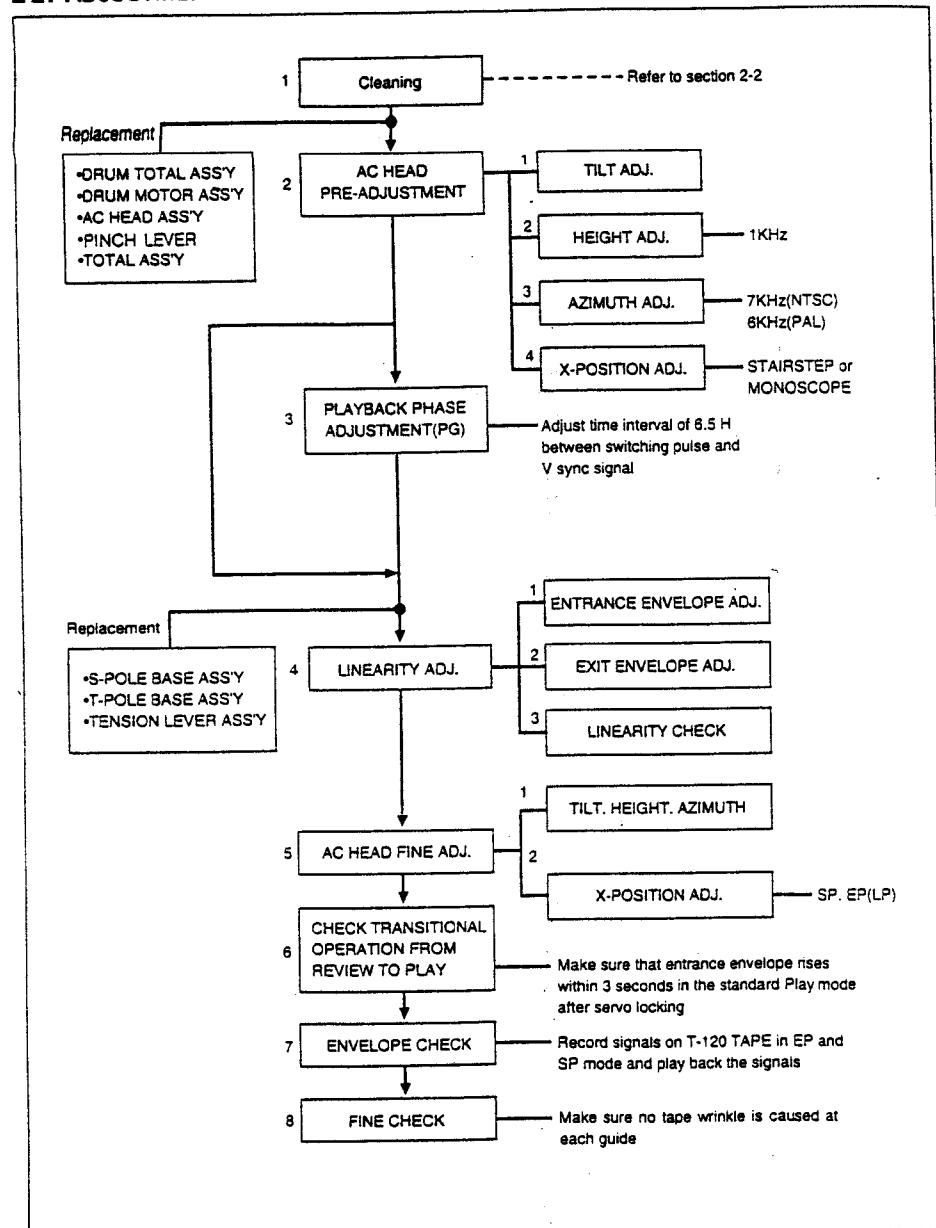


Fig. 2-1

(1) VERTICAL POST	(8) T-SLANT POLE
(2) TENSION POLE	(9) T-GUIDE ROLLER
(3) S-GUIDE POST	(10) AC HEAD
(4) FE HEAD	(11) T-GUIDE POST
(5) S-GUIDE ROLLER	(12) CAPSTAN SHAFT
(6) S-SLANT POLE	(13) PINCH ROLLER
(7) CYLINDER	

## 2-2. ADJUSTMENT FLOW FOR THE TAPE TRANSPORTING SYSTEM



## 2-3. ADJUSTMENT PROCEDURES

### 1) Pre-adjustment

When the parts as shown in Fig. 2-1 is replaced, the Tape Path may be changed and alignment tape may be damaged. To prevent this, first, playback a T-120 Tape and make sure excessive tape wrinkle does not occur at each tape guide. If tape wrinkle is observed at the S & T-Guide Rollers (③) in Fig. 5-1, turn the S & T-Guide Rollers for no wrinkle.

### C. The height Adjustment of AC Head

- Play back the Alignment Tape (SP mode) with 1 KHz audio signal.
- Turn the Ac Head Nut to obtain maximum audio output.

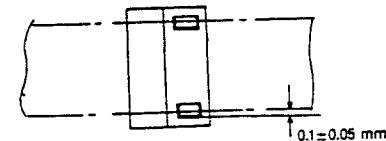


Fig. 2-4 The Height Adjustment of AC Head

### 2) The Pre-adjustment of AC Head Ass'y

#### A. Tilt Adjustment

- Play back a T-120 Tape and observe running condition of the Tape at the upper and lower Flanges of the T-Guide Post Ass'y ⑪ in Fig. 2-1.
- Adjust the Tilt Adjusting Screw until tape runs stable as shown in Fig. 5-2.

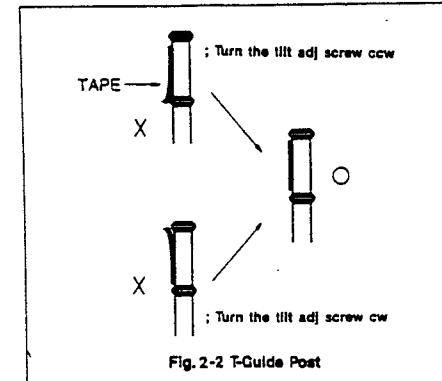


Fig. 2-2 T-Guide Post

#### B. Audio Azimuth Adjustment

- Play back the Alignment Tape (SP mode) with audio signal.
  - NTSC: 7 KHz
  - PAL: 6 KHz
- Observe audio signals on an oscilloscope.
- Turn the Azimuth Adjusting Screw to obtain maximum audio output.

### NOTE:

Before proceeding with this adjustment, remove flocking paint applied on the Adjust Cap.

### 3) Playback Phase Adjustment (PG Adjustment)

- Play back the Alignment Tape (SP mode).
- Observe a video signal on an oscilloscope display triggered with the switching pulse.
- Adjust the PG volume for time interval of  $6.5 H \pm 0.5 H$  between switching pulse and V sync signal.

#### NOTE:

In this adjustment, adjust the Tracking Volume the best video signal.

### Switching pulse

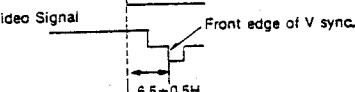


Fig. 2-5 Playback Phase Adjustment

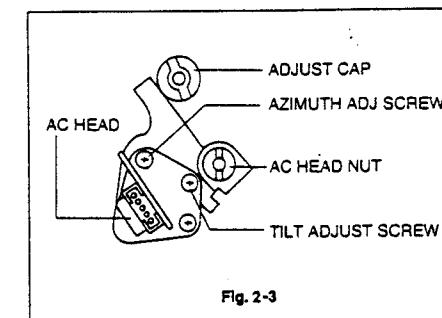
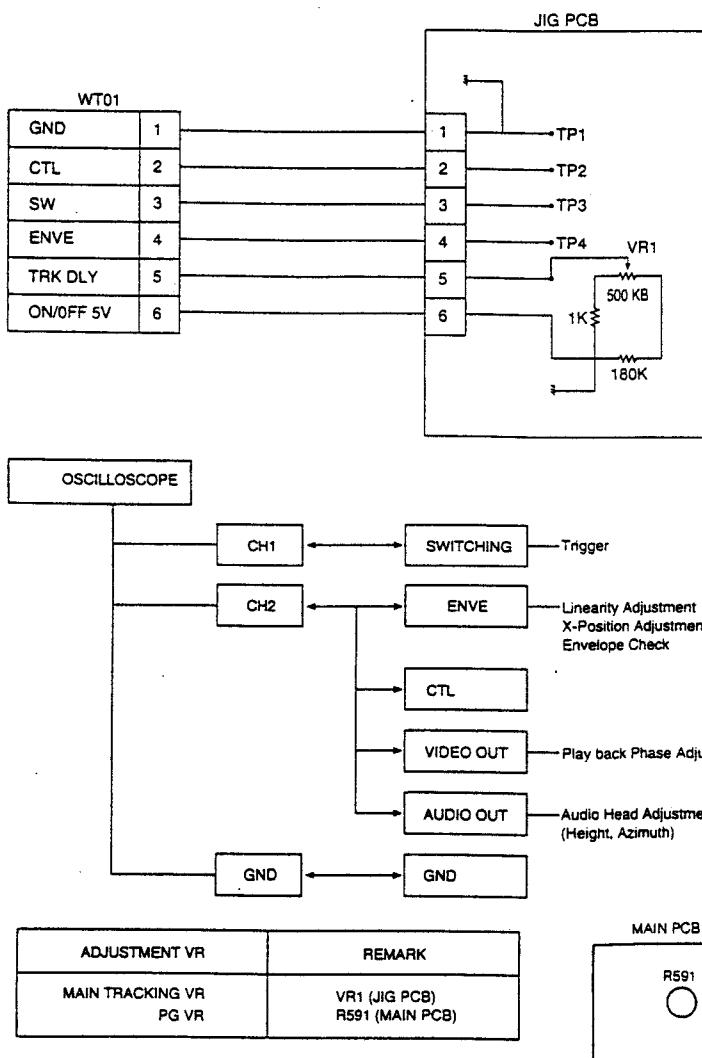


Fig. 2-3

## CONNECTION



### 4) Linearity Adjustment

- Play back the Alignment Tape with SP stairstep (or monoscope) signal.
- Observe the signal envelope on an oscilloscope display triggered by the switching pulse.
- Make sure the envelope waveform (in its maximum) output meets the specifications shown in Fig. 2-6.
  - Maximum output of envelope.
  - Minimum output of envelope at the Drum entrance
  - Minimum output of envelope at the Drum center.
  - Maximum output of envelope at the Drum exit in Fig. 5-6.

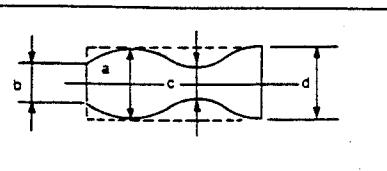


Fig. 2-6 Envelope Waveform Specification

- If the section A in Fig. 5-7 does not meet the specification, adjust the S-Guide Roller up or down.
- If the section B in Fig. 2-7 does not meet the specification, adjust the T-Guide Roller up or down.

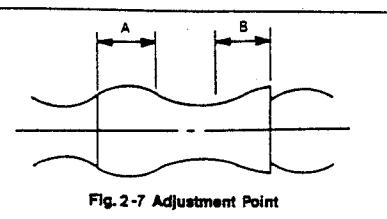


Fig. 2-7 Adjustment Point

- After completing adjustment, turn the tracking Volume and make sure the envelope varies almost flat.
- If the envelope varies as shown in Fig. 2-8, adjustment of the S-Guide Roller and the TGuide Roller may be upset and then perform the adjustment again.

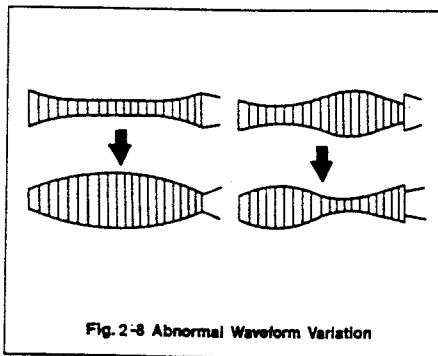


Fig. 2-8 Abnormal Waveform Variation

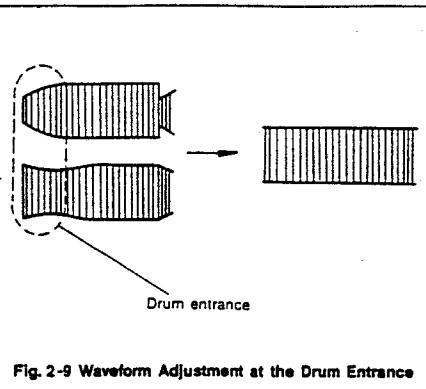


Fig. 2-9 Waveform Adjustment at the Drum Entrance

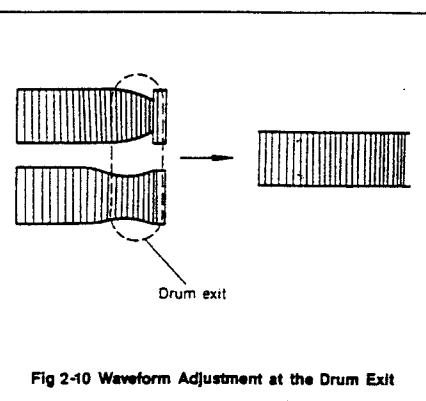


Fig. 2-10 Waveform Adjustment at the Drum Exit

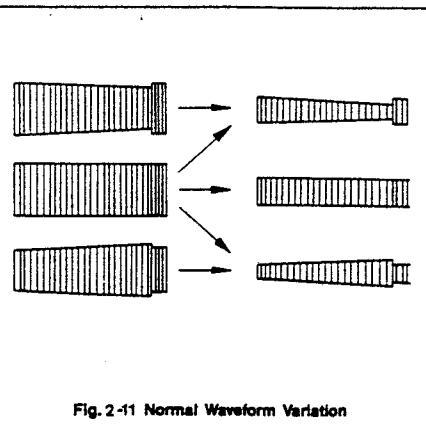


Fig. 2-11 Normal Waveform Variation

##### 5) The fine adjustment of AC head

A. Tilt Adjustment (refer to Fig. 2-2)  
Tape wrinkle check at the lower Flange of TGuide Post Ass'y in Fig. 2-1.

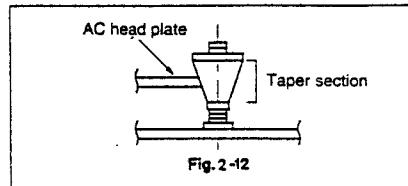
- a. If tape wrinkle is observed at the lower Flange of ① adjust the Tilt Adjust Screw CCW until the wrinkle disappears.
- b. If a gap observed between the lower Flange of ① and the lower edge of tape, adjust the Tilt Adjusting Screw CW until the tape travels along the lower Flange.

B. Azimuth Adjustment (refer to section 2-3-2)

C. The X Position Adjustment for Interchangeability

- a. Play back the Alignment Tape (SP mode) with stairstep (or monoscope) signal.
- b. Place the Tracking Volume at its center click.
- c. Trigger an oscilloscope with switching pulse and observe the envelope waveform of CH-2.
- d. Turn the Adjust Cap CCW or CW within taper section and fix the Adjust Cap at the position where the envelope reaches a peak level.
- e. Play back the Alignment Tape (EP or LP mode) with stairstep (or monoscope) signal.
- f. Make sure the envelope is maximum at the center click position of Tracking Volume. If maximum envelope is not observed, perform the envelope adjustment to obtain maximum envelope output again.
- g. Play back the Alignment Tape with stairstep (or monoscope) signal and make sure audio output is maximum.

• NTSC: 7 KHz • PAL: 6 KHz



##### 6) Check for transitional operation from Review to Playback

- A. Playback the Alignment Tape (SP mode) in the REVIEW mode and observe the envelope with an oscilloscope.
- B. Switch the REVIEW mode to the PLAY mode. Make sure state within 3 seconds as shown in Fig. 2-13. If it does not rise within 3 seconds after servo locking adjust as follows.

- a. Play back the Alignment Tape which has the stairstep (or monoscope) signal, looking Envelope Waveform, make sure that S & TGuide Roller's height is adjusted correctly.

- b. Change operation mode from Review mode to Play mode again and then make sure that the entrance envelope rises within 3 seconds after servo locking.
- c. If not, perform the adjustment according to the section 2-3-4.

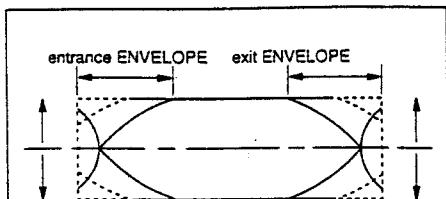


Fig. 2-13

##### 7) Envelope Check

- A. Record video signals (color bar or monoscope on T-120 Tape) and make sure the playback envelope output meets the specification as shown in Fig. 2-13.
- B. In playing the same Video Deck used for the recording using the T-120, the envelope should meet the specification as shown in Fig. 2-14.
- C. If the performance does not meet both specification, replace the Drum Total Ass'y.

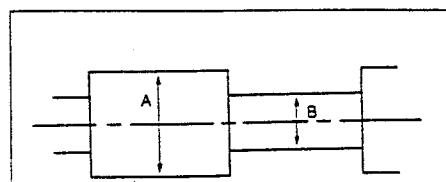
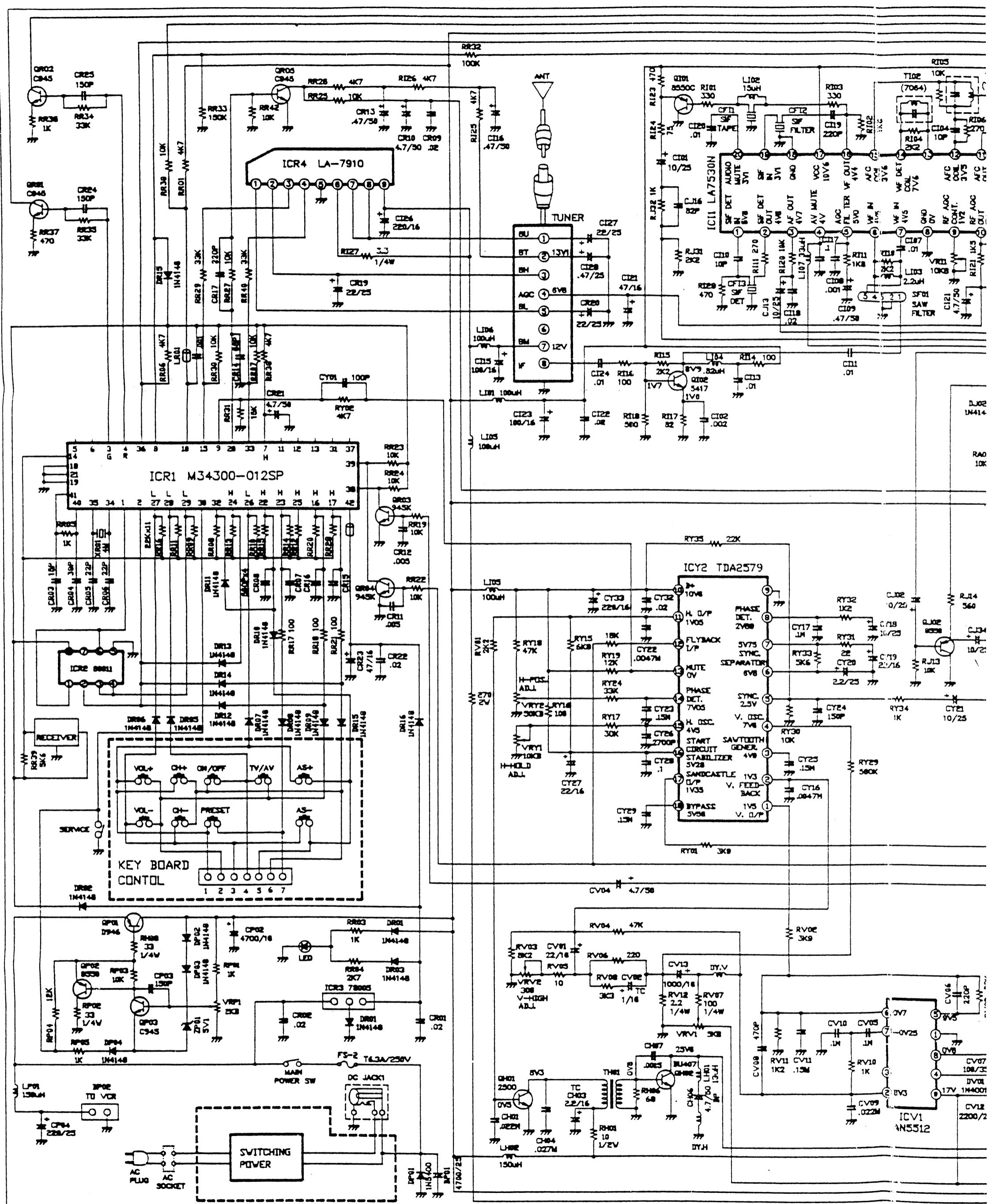
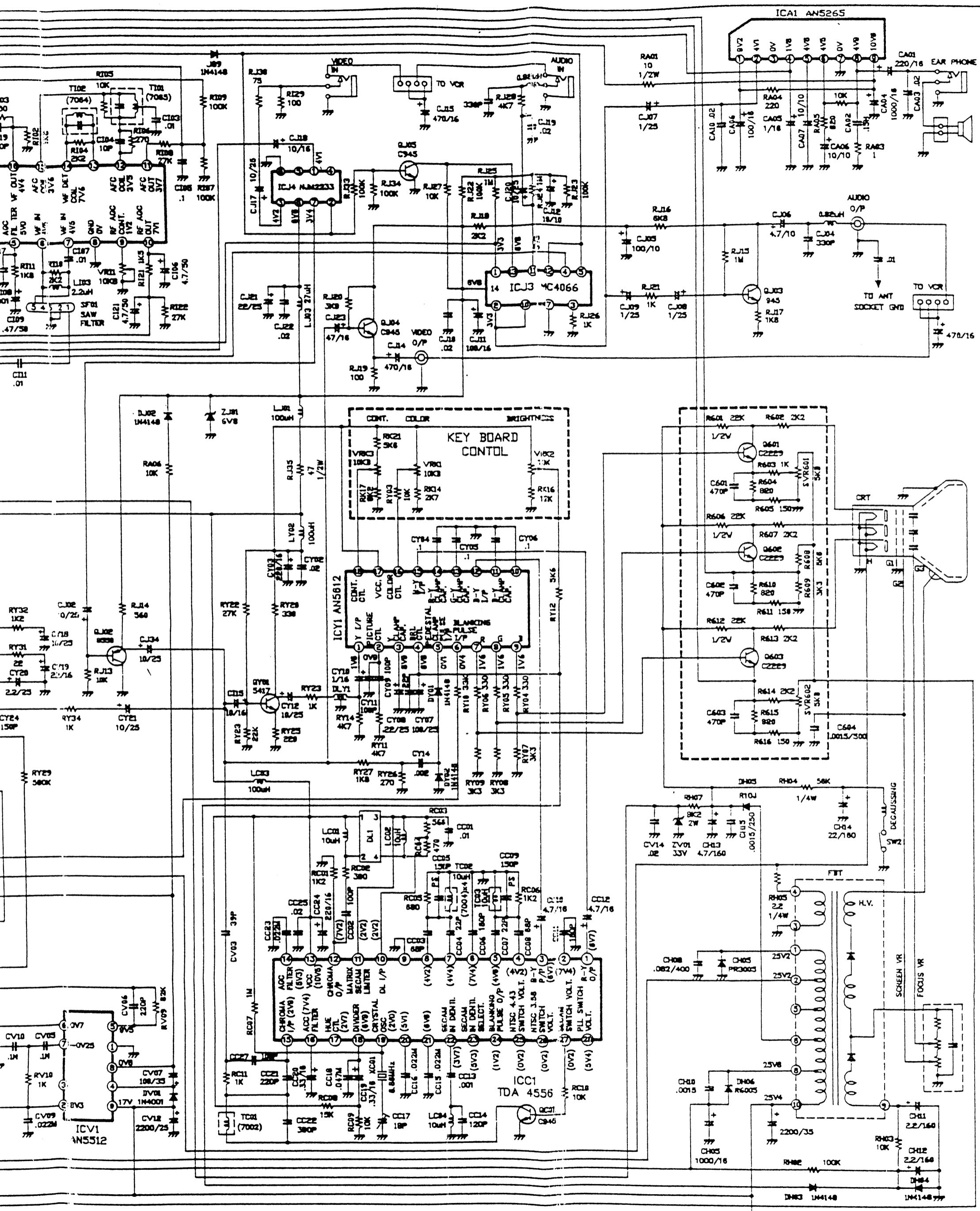


Fig. 2-14 Envelope output and output level difference

##### 8) Final Check

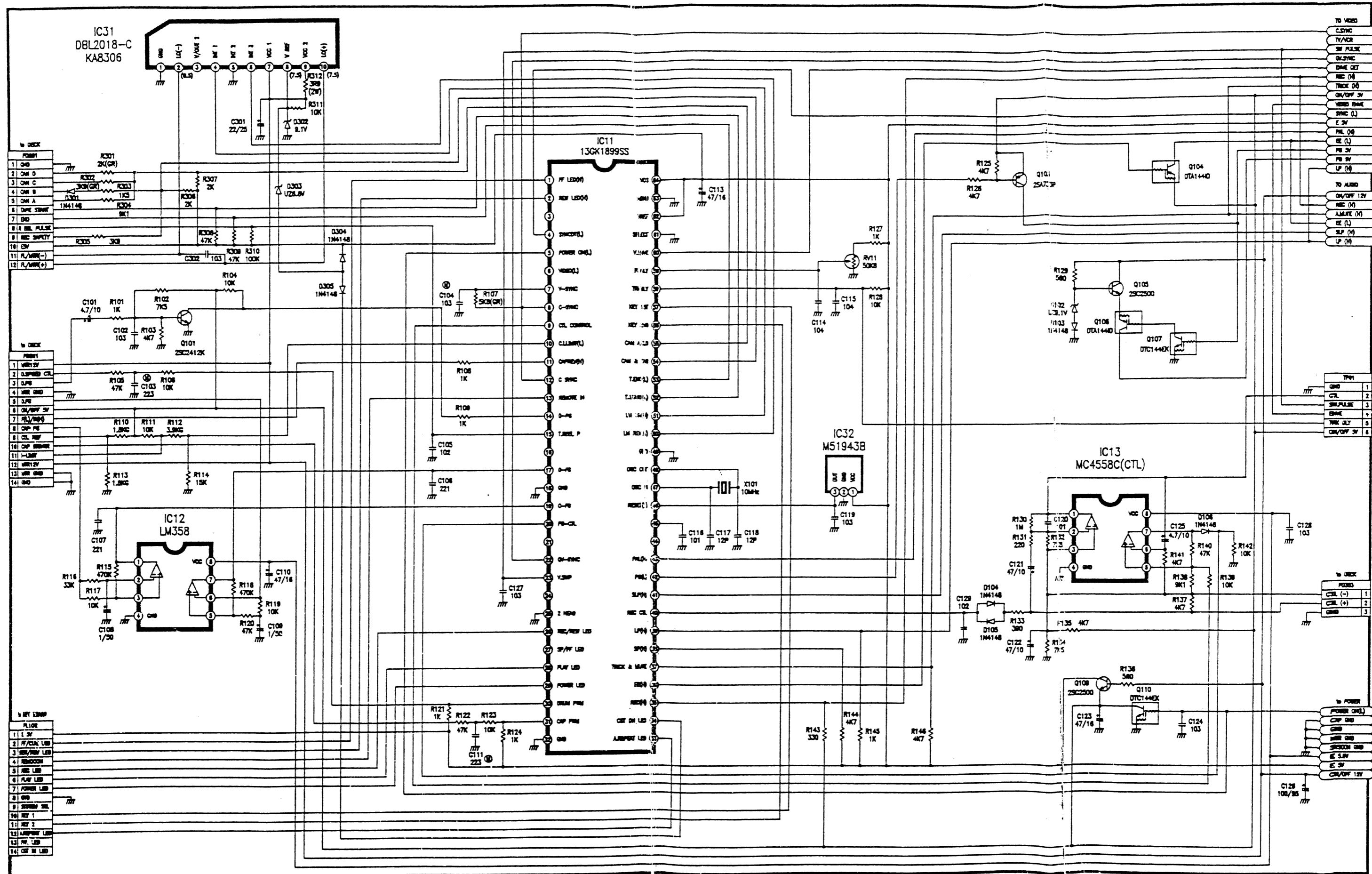
Make sure no Tape wrinkle is caused at each guide.





SUBFIX	MOD RECORD	臺灣電子股份有限公司				
AA	1995/11/1					
AB		TITLE: TVR-402 BF SCHEMATIC DIAGRAM				
AC		DRAWN	CHECK	APPROVED	DRAWING NO	REV
AD			徐文興			0
AE		曾美華		lwr	05-22-1311	SH2

## VDR SERVO/SYSCON SCHEMATIC DIAGRAM



## VDR VIDEO SCHEMATIC DIAGRAM

